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September 25, 2008

State of California  
Department of Transportation  
345 Burma Road  
Oakland CA 94607

*MCM-TRN-444R2*

Attn: Ben Ghafghazi, R. E.

Re: Contract No. 04-0120L4  
Bay Bridge Oakland Touchdown

Reference: Notice of Potential Claim for P/S & ISD Delay Response

Gentlemen:

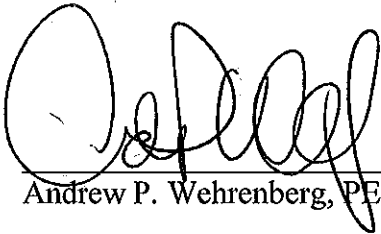
MCM and its subcontractors disagree with the State's response to the claim set forth in Caltrans letter number CT-LTR-1035, dated 9/19/08. MCM and its subcontractors can not build what was in the bid plans. As stated in the attached letter from Avar, mono strand jacking breaks strand due to pinching when the profile of the tendon is greater than 8 degrees, the States plans show 32 degrees. The change proposed by MCM and its subcontractors was not for contractor convenience but to produce plans that are constructible. To date, pre-stressed drawings and ISD models are still in the iterative processes with the state and design to produce constructible plans.

During the iterative process of producing constructible plans, one of the suggestions was to use high strength rods. This was due to the profiles of the pre-stressing forces being moved to a location to which the profile could be relatively flat (less than 6 degrees). Relatively horizontal profiles were due to States allowance of increasing the diaphragm openings vertical height greater than shown on the bid plans with a pour backs. On 8/1/08, Avar submitted drawings with this flat profile for tendons C2 & C3. On 8/18/08 the state responded that the capacity of the bars supplied in the submittal was not enough, Avar requested from the state, as always, P-jack for the bars. On 8/25/08, design gave MCM the P-jack forces for Avar to design the HS rods. Avar immediately questioned the force as high and requested the State to reassess the force supplied. It appeared to Avar that the force supplied took into account profile of the path, more curve producing greater friction, therefore a greater force would have to be applied to the tendon to achieve the desired force. A revised lower set of P-jack forces was supplied on 8/28/08. To achieve the force supplied, more HS rods would be needed, this was not possible due to the highly congested rebar in the diaphragm area. Avar then supplied drawings with strand for C2 & C3 with the flat profile.

The change in stressing sequence under CCO62 will require more time. MCM & Avar can submit for approval high early strength mixes for the grout in these areas under change order to reduce the time impact to the project.

As was stated in form B submitted on 9/11/08, the costs for the change due to above can not be assessed since the final pre-stress plans and ISD models for frame 1 WB have not been completed and approved. MCM and our subcontractors request to be given 14 days after approval of frame 1 pre-stress drawings and approved ISD models to submit the costs associated with this change. MCM has incorporated this change into the attached schedule to show the impact. The State can see from this schedule that as of the date of this letter the delay to the contract designated portion of the work is 129 day's and 170 day's to work completion. This delay will continue until approval of the previously mentioned items. The approximate daily rental for installed trestle and falsework material is \$10,000.00.

Should you have any question please contact me @ 916-334-1221.

  
\_\_\_\_\_  
Andrew P. Wehrenberg, PE

/apw  
Attach/Avar Letter

Cc: HGM  
G. Allen  
R. McCall  
307 File 7.0



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September 25, 2008

MCM Construction, Inc.  
Attn: Andrew P. Wehrenberg  
P.O. Box 620  
North Highlands, CA 95660

Re: Oakland Touchdown – Westbound Frame 1 Post-Tensioning Shop Drawings

Gentlemen,

We have received the letter from Ben Ghafghazi with Caltrans dated September 19, 2008 and have the following comments:

Diaphragm C & D were NOT constructible as shown on the contract plans because there was not enough room for the ram.

Furthermore, Mr. Ghafghazi states that it was constructible using a monostrand ram. This is incorrect. After extensive experience stressing multistrand tendons through the years with a monostrand jack we have determined that the maximum deviation in the tendon can be no greater than 8 degrees. If the angle is greater the strands get "pinched" and wire/strand breakage will occur. The smallest angle change for tendons C2 and C3 per the contract plans is 32 degrees. In no case could a monostrand jack be used to stress the tendons.

It should be noted that our design suggestions were not for contractor "means and methods" but actually made our work more difficult. In an effort to find a solution we extensively researched possible alternatives such as moving the anchorage locations to facilitate stressing, the use of H.S. Bars which can be stressed with a smaller ram but are difficult to install and different tendon profiles that would allow us to use a monostrand ram. The installation of bars is far more difficult and risky than the installation of strand; however we suggested it because it is constructible. Additionally, monostrand stressing is time consuming and more difficult than multistrand stressing. The only reason that we suggested it was to make the frame constructible.

In fact, after an extensive review of the plans in March and April a three person team began researching possible alternatives where constructability issues existed. On April 30, 2008, we presented a conceptual plan of moving the anchorages for tendons C2 & C3 to the soffit. The designer rejected this idea because he did not want both tendons anchored through the soffit. We then proposed to anchor tendon C3 in the soffit and tendons C2 in the top deck. This idea was approved by the designer.

We began submittal of frame 1 with Pier 19 on May 7, 2008 concluding with submittal of diaphragms C & D on June 25, 2008. During a meeting on July 2, 2008 the designer questioned why we were changing the tendon profile for tendons C2 & C3 and stated that similar stressing had successfully been performed on the skyway project. We were very surprised that the designer was questioning our new tendon profiles because the new tendon profiles had previously been agreed upon during the meeting of April 30, 2008.

We went back to the "drawing board" and researched what had been done on Skyway and found out that the Skyway stressing blockouts were much larger and of a totally different configuration. Since we did not have this luxury on the Touchdown project we worked through the weekend on a different alternative and proposed on July 7 a tendon configuration for C3 that used H.S. bars. There was no viable alternative for tendon C2.

On July 15 our drawings were returned with no conclusive acceptance or rejection of our alternative tendon configuration for tendon C3. It should be noted that some of these drawings had been submitted ten weeks earlier!

We then attended a meeting on July 18, 2008 where the bar proposal for tendon C3 was accepted and where the designer reluctantly agreed that the utility opening could be raised to accommodate a "straight" tendon C2.

We proceeded to reconfigure tendon C2 based on this new information. We re-calculated the  $P_{final}$  we thought was required for the H.S. bars. Mr. Ghafghazi states that this calculation is "normally performed by the contractor" which is incorrect. For all Caltrans jobs we are given a  $P_{jack}$  which we use to determine the number of strands required. We never calculate the  $P_{final}$  of the tendon.

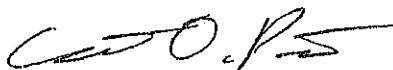
On July 29, 2008 we resubmitted diaphragms C & D using H.S. bars.

On August 18, 2008 our drawings were returned to us with Caltrans stating that our  $P_{final}$  assumptions were wrong. We then asked for the  $P_{final}$  assumed in the design and it was supplied to us one week later on August 25, 2008.

The  $P_{final}$  supplied by Caltrans was greater than the one assumed by us which meant that more bars were needed. However, there was no more room in the diaphragms to add additional bars so we once again began researching another alternative that could work. We determined that multistrand tendons with a profile that would allow monostrand stressing was the only viable alternative. On Friday, August 29, 2008 we once again resubmitted diaphragms C & D.

To date we have spent in excess of 420 hours more than half of which estimate to be a direct result of the problems listed above. The reason that the post-tensioning drawing acceptance has been so long and difficult is because we were repeatedly provided with incorrect or insufficient information by the owner. The majority of the hours were spent after June 25, 2008 when we submitted what we had been told was an acceptable alternative only to find out that it was not acceptable. This happened 2 times and added 13 weeks to the acceptance process. Needless to say we understand that the drawings are still not accepted!

Respectfully yours,



Carrick D. Pierce